



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

AL

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,269	02/19/2002	Atsushi Umeda	111987	1061
25944	7590	10/21/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320				PHAM, LEDA T
		ART UNIT		PAPER NUMBER
		2834		

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/076,269	UMEDA, ATSUSHI
	Examiner	Art Unit
	Leda T. Pham	2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 June 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3,5-8 and 10-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 10 is/are allowed.
 6) Claim(s) 1,3,5-8 and 11-15 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 19 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/24/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

1. This office action is in response to amendment filed on 6/24/04.
2. In view of amendment, claims 1, 3, 5 – 8, 10 – 15 are presented for examination.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12 - 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, “and having a middle point” on line 5 is vague because it is unclear which subject mater having a middle point, the first winding or the another one of the phase winding.

In light of figure 10, the subject mater is understood as the first winding.

In claim 14, “and having no middle point” on line 5 is vague because it is unclear which subject mater having no middle point, the first winding or the another one of the phase winding.

In light of figure 11, the subject mater is understood as the first winding.

Claims 13 and 15 are being rejected as dependent claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al (U.S. Patent No. 6,140,735) in view of Fogarty.

Referring to claim 1, Kato teaches a rotary electric machine (figure 1) comprising a stator core (1) having a plurality of slots (10) and a multi-phase winding (2) including a plurality of phase windings wound in the slots at predetermined angular intervals, wherein the multi-phase winding has a plurality of separate electric conductor segments (201 - 204) connected in series, and each of the slots receives therein generally a same number of the conductor segments, and the electric conductor segments are connected together through respective end portions (23 – 28). However, Kato does not teach one end of one of the phase windings is connected to a middle point other than both ends of another one of the phase windings in a cyclic manner among the phase windings.

Fogarty teaches a rotary electric machine having delta and wye connection winding (figure 7) wherein one end of one of the phase windings is connected to a middle point other than both ends of another one of the phase windings in a cyclic manner among the phase windings (column 6, lines 55 –60) for fine adjustment of voltage level output.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the phase winding connection as taught by Fogarty. Doing so would have a fine adjustment of voltage level output in electric rotary machine.

Referring to claim 5, Kato teaches the rotary electric machine wherein the electric conductor segments each has a rectangular sectional shape (figure 14).

Referring to claim 8, Kato teaches the claim invention except for the added limitation of one end of each of the phase windings is connected to a mid-point of another of the phase windings to form a delta connection of the phase windings.

Fogarty teaches a rotary electric machine having delta and wye connection winding (figure 7) wherein one end of one of the phase windings is connected to a middle point other than both ends of another one of the phase windings in a cyclic manner among the phase windings (column 6, lines 55 –60) for fine adjustment of voltage level output.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the phase winding connection as taught by Fogarty. Doing so would have a fine adjustment of voltage level output in electric rotary machine.

7. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated as applied to claim 1 above, and further in view of Kusase et al (U.S. Patent No 5,122,705).

Referring to claim 3, the combination of Kato and Fogarty ref. teaches the claimed invention, except for the added limitation of the multi-phase winding includes two set of three phase winding.

Kusase teaches the rotary electric machine wherein the multi-phase winding includes two sets of three-phase windings having a phase difference of $\pi/6$ in an electric angle from each other (column 5, lines 4 – 7) for generating a d.c. rectified output voltage.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the phase winding in the rotary electric machine as taught by Kusase. Doing so would generate a D.C. rectified output voltage.

Referring to claim 7, Kusase teaches the rotary electric machine further comprising a rectifier device (6) for rectifying voltages induced in the multi-phase winding, wherein another end of each of the phase windings is connected to the rectifier device (figure 6).

8. Claims 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato and Fogarty as applied to claim 1, 5 above, and further in view of Asao (U.S. Patent No. 6,498,414).

Referring to claim 6, and 11, the combination of Kato and Fogarty ref. teaches the claimed invention, except for the added limitation of the conductors segments in difference lengths.

Asao teaches in his invention the stator having slots with the U-shaped conductor segments in same slot having difference lengths (figure 10, 45A and 45B, second conductor 45B aligned inserting inside first conductor 45A) to reduce size of stator core.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conductor segments with difference lengths as taught by Asao. Doing so would reduce the size of the stator core.

Allowable Subject Matter

9. Claims 12 – 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claim 10 is allowed.

11. The following is an examiner's statement of reasons for allowance: the record of prior art does not show a rotary electric machine having stator core, a rectifier, and a multi-phase winding with each phase windings having a number of turn fixed to a first integer, wherein the phase

windings are connected to one another in a predetermined form of a Y-connection and a Δ-connection to provide an output which is intermediate between first and second outputs which the rectifier device provides when the phase winding are connected in the Y-connection and the number of turns in each slot is fixed to the first integer and to a second integer having a value which is less than the first integer by one.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

12. Applicant's arguments filed 6/24/04 have been fully considered but they are not persuasive.
13. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Fogarty teaches a combined delta-wye of winding in a rotary electric machine that can adjust the out put voltage based on winding connection.
14. In response to applicant's argument that Fogarty does not disclose or suggest the claimed feature of one end of the phase winding connected to a middle point other than both ends of

another one of the phase windings in a cyclic manner among the phase windings. Applicant notes that “Fogarty, and shown in Fig. 7, each of the sections are connected at one end to a node of the Delta topology where two of the first winding sections are connected.” Thus, examiner disagrees with that because on lines 3 – 8 column 6, Fogarty teaches as shown in figure 7, each phase winding (A54, B62, C64) having partitioned into two groups of winding segments. Therefore, nodes P1 – P3 are the middle nodes of phase windings A54, B62, C64. The end nodes of the phase windings are defined at end terminals 52 in figure 7.

15. As claim 10 is amended, it has been overcome the last rejection. Claim 10 is allowed.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

Art Unit: 2834

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834

LTP
October 17, 2004



DANG LE
PRIMARY EXAMINER